

U.S. Patent Application Serial No. 10/588,717
Amendment filed December 18, 2008
Reply to OA dated October 2, 2008

REMARKS

Claims 1-13 are pending in this application. Claims 3-6 are canceled without prejudice or disclaimer, claim 1 is amended and claim 14 is newly added herein. Upon entry of this amendment, claims 1, 2 and 7-14 will be pending. Entry of this amendment and reconsideration of the rejections are respectfully requested.

No new matter has been introduced by this Amendment. Support for the amendment to claim 1 may be found in original claim 4. Support for the newly added claim 14 may be found on page 6, lines 30-34, of the specification.

Claims 1-13 are rejected under 35 U.S.C. §102(e) as being anticipated by Higuchi et al. (US 2005/0239990). (Office action p. 2)

The rejection is moot for claims 3-6, which are canceled without prejudice or disclaimer. The rejection of pending claims 1, 2, and 7-13 is overcome by the claim for foreign priority of Japanese Application 2004-49826, filed February 25, 2004. The 102(e) date of Higuchi et al. is December 20, 2004. The claim for foreign priority in the present application is perfected by the attached verified English translation of the priority document.

Applicant submits that the claims of the present application are fully supported by the priority document. Specifically, original claims 1-6 of the present application may be seen to be generally correspond to claims 1-6 of the priority document. The optional polyol (d) in claim 1 of the priority

U.S. Patent Application Serial No. 10/588,717
Amendment filed December 18, 2008
Reply to OA dated October 2, 2008

application is not recited in present claim 1. Support for the solvent recited in claim 1 may be found in paragraphs [0039] to [0041] of the priority document.

Original claim 7 of the present application is supported by claim 1 of the priority application, and original claim 8 of the present application is supported by claim 7 of the priority application. Support for the radical photopolymerization initiator in claim 9 may be found in paragraph [0028] of the priority document. Support for claim 11 may be found in paragraph [0043] of the priority document. Support for claims 12 and 13 may be found in paragraphs [0046] and [0047] of the priority document.

New claim 14 is also supported by paragraph [0021] of the priority document.

Claims 1-7 and 9-11 are rejected under 35 U.S.C. §102(b) as being anticipated by JP 2003-113221. (Office action p. 2)

The rejection of claims 3-6 is moot in view of the cancellation of those claims without prejudice or disclaimer. The rejection of claims 1, 2, 7 and 9-11 is overcome by the amendment to claim 1. Claim 1 has been amended to incorporate the limitation of claim 4, and has the scope of claim 4 before the present amendment.

The Examiner cites JP '221 as corresponding to the present claims, as follows:

U.S. Patent Application Serial No. 10/588,717
Amendment filed December 18, 2008
Reply to OA dated October 2, 2008

Claim 1

polyisocyanate compound (a)
carboxy-containing polyol (b)
hydroxy-contg. unsaturated compd. (c)

JP '221

organic polyisocyanate (a)
cmpd. having two hydroxyl gps. and one
carboxyl group (e)
(d) reaction product of (a) epoxy resin having
two epoxy groups, (b) maleimide-group
containing monobasic acid; and (c)
(meth)acrylic acid.

However, JP '221 does not disclose the limitation of original claim 4, now incorporated into claim 1: “the hydroxy-containing unsaturated compound (c) being an unsaturated compound (c-2) having one hydroxy group and at least two unsaturated groups per molecule.” It will be understood from the specification that in this recitation, “having one hydroxy group” means “having exactly one hydroxy group.” There is no general teaching for this limitation, or example having this limitation, in the reference. The claims, as amended, are therefore not anticipated by Higachi JP '221.

Moreover, Applicant submits that the pending claims are not obvious over Higachi JP '221. It is clear from the disclosure of the present specification that there are unexpected results associated with the limitation on hydroxy-containing unsaturated compound (c) in amended claim 1.

In the Examples of the present invention, trimethylolpropane diacrylate was used as hydroxy-containing unsaturated compound (c). The trimethylolpropane diacrylate is a specific example of the unsaturated compound (c-2), which has one hydroxy group and at least two unsaturated groups per molecule (page 6, lines 30-34 of the specification).

By using an “unsaturated compound (c-2) having one hydroxy group and at least two unsaturated groups per molecule” as the “hydroxy-containing unsaturated compound (c),” an

U.S. Patent Application Serial No. 10/588,717
Amendment filed December 18, 2008
Reply to OA dated October 2, 2008

excellent “flexibility” and a “high resistance to developers” can be obtained, in addition to the several excellent properties disclosed in the present specification, in processability, mechanical properties, transmission loss, core gap, core shape precision, core-covering properties and workability.

Specifically, compared to when an unsaturated compound (c-1) having one hydroxy group and one unsaturated group per molecule is used, when an unsaturated compound (c-2) having one hydroxy group and at least two unsaturated groups per molecule is used, the amount of unsaturated group(s) in the polyurethane resin increases. This enhances the photocurability, allowing excellent resistance to developers to be obtained.

Compared to when an unsaturated compound (c-3, or c-4) having at least two hydroxy groups per molecule is used, when an “unsaturated compound (c-2) having one hydroxy group and at least two unsaturated groups per molecule” is used, an optical waveguide having an excellent flexibility can be obtained.

There is no suggestion in JP '221 for the limitation of “an unsaturated compound (c-2) having one hydroxy group and at least two unsaturated groups per molecule,” and no teaching in JP '221 that would predict these effects associated with the combination of limitations in claim 1.

These arguments are also applicable to new claim 14, which depends from claim 1.

Claims 1, 2, 7, 9-11 and 14 are therefore not anticipated by, and not obvious over, Higachi JP '221.

U.S. Patent Application Serial No. 10/588,717
Amendment filed December 18, 2008
Reply to OA dated October 2, 2008

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicants' undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

KRATZ, QUINTOS & HANSON, LLP



Daniel A. Geselowitz, Ph.D.

Agent for Applicants

Reg. No. 42,573

DAG/xl

Atty. Docket No. 060586
Suite 400
1420 K Street, N.W.
Washington, D.C. 20005
(202) 659-2930



23850

PATENT & TRADEMARK OFFICE

Enclosures: Verification of Translation
Verified English Translation of Priority Document (JP 2004-49826)

H:\060\060586\Amendment in re OA of 10-02-08